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APPLICATION FOR UNITED STATES PATENT

FRONT-LOADING UTILITY BASKET WITH AN EXTENDABLE HANDLE

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# FRONT-LOADING UTILITY BASKET WITH AN EXTENDABLE HANDLE

## TECHNICAL FIELD

5           The present invention generally relates to utility carts. The present invention also relates to wheeled carts. The present invention additionally relates to utility baskets, including portable storage bins, laundry baskets and other portable baskets, such as hampers and garbage cans. The present invention also relates to extendable handles and pop-up mechanisms thereof for  
10 such handles.

## BACKGROUND OF THE INVENTION

15           Various household chores, such as the periodic need to take care of the laundry or haul garbage and other refuse, as well as other tasks, are a necessary part of virtually everyone's life. Utility baskets have become a daily part of life for centuries. While various machines have been developed over the years to make chores somewhat easier (e. g., automatic washers and dryers), little has been done to ease the loading, storage and transport of items such as  
20 garbage, leaves, refuse and laundry.

25           Laundry and laundry supplies, for example, remain difficult to store and transport to and from washing and drying equipment. Conventional baskets have likely been used since antiquity for the carriage of laundry and clothing, and are still used in various forms today. Such baskets have numerous disadvantages, such as the need to lift and carry them, their relative size and bulk which obstructs the view of the path of the carrier immediately in front, and the lack of any provision for carrying additional supplies.

30           Hampers in general, and laundry hampers in particular, are available in a

great variety of types and designs. One type of hamper comprises a container, often constructed of materials such as plastic, wicker or rubber, that are configured to form a storage chamber for soiled clothing. Such hampers ordinarily have a top closure or cover that can be hinged to the container and serves to shut the container when it is not in use. Soiled clothing that has accumulated within the hamper is periodically transferred to a basket or other transport means which is then carried to the washing machine or other laundry facility.

As used herein the term "utility basket" can refer to a container that is generally manageable by one person, can include a cover and wheels. The storage bin can be used for packing, storing, or transporting articles in general, for example: clothes hampers and feed containers, household trash bins, toy bins, shopping baskets, and the like. Also as utilized herein the term "utility basket" can refer to general purpose transporting devices such as a garbage can, refuse container, and even a hamper.

One of the problems that most people face when storing items in a utility basket is the difficulty in loading and unloading the items from the utility basket. For example, in a utility basket such as a hamper, an individual must bend over and lean into the basket in order to remove the items, such as clothing. This can be a difficult task, particularly if one is required to load and unload a large number of items from the baskets.

Another difficulty encountered in transporting utility baskets involves the carrying and/or wheeling of such baskets. Carrying utility basket is well known in the art. Handles have been used for centuries to carry utility baskets. In recent years, utility baskets have been fitted with wheels. Such wheeled baskets are well known in the art. What is required however is a handle that is

easy to operate, particularly with wheeled utility baskets such as hampers.

Based on the foregoing, the present inventor has concluded that a need exists for an improved utility basket configuration, which will enable items to be  
5 loaded and unloaded with ease and efficiently into and out of the utility basket.  
The present inventor has also concluded that a need exists for a utility basket such as a hamper, that is integrated with an extendable handle to enable a much more efficient transportation of items than is presently found with existing utility basket transportation devices.

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## BRIEF SUMMARY OF THE INVENTION

5 The following summary of the invention is provided to facilitate an understanding of some of the innovative features unique to the present invention and is not intended to be a full description. A full appreciation of the various aspects of the invention can be gained by taking the entire specification, claims, drawings, and abstract as a whole.

10 It is therefore one aspect of the present invention to provide an improved utility basket

15 It is another aspect of the present invention to provide a front-loading utility basket.

It is still another aspect of the present invention to provide a front-loading utility basket with an extendable handle.

20 It is yet another aspect of the present invention to provide an improved hamper.

It is still another aspect of the present invention to provide an improved laundry basket.

25 It is yet another aspect of the present invention to provide an improved garbage can.

The above and other aspects can be achieved as is now described. An improved utility basket is disclosed herein, wherein such a utility basket

comprises, a bottom floor, a left wall and a right wall located above and connected to the bottom floor, and a back wall located between the left wall and the right wall and above the bottom floor, wherein the back wall is connected to the left wall, the right wall and the bottom floor. The front wall has a gap formed therein through which items can enter and exit the utility basket. A front door is generally connected to the front wall, wherein the front door opens and closes to permit items to enter and exit the utility basket through the gap when the front door is in an open position, while maintaining the items within the utility basket when the front door is in a closed position.

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The front door may be configured to open and close vertically. The front door may also be configured to open and close horizontally. The front door can also be configured as a door comprising a plurality of foldable panels. Such panels may be rollably connected to one another such that the panels are retractable into a scroll-like configuration. Such a utility basket can comprise one or more handles. Such handles may be configured as extendable handles. A one or more wheels may also be connected to the bottom floor of the utility basket. Such a utility basket may comprise, for example, a hamper, a laundry basket, and/or a garbage can. The left wall, the right wall, the back wall, the bottom floor, the front wall and the front door may be formed from plastic or other rubber-like material through manufacturing processes well known in the art such as injection molding. The utility basket can also include a cavity formed from at least one wall of the utility basket, such that the front door slides into the cavity in when the front door is moving toward an open position and out of the cavity when the front door is moving toward a closed position.

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## BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying figures, in which like reference numerals refer to  
5 identical or functionally-similar elements throughout the separate views and  
which are incorporated in and form part of the specification, further illustrate the  
present invention and, together with the detailed description of the invention,  
serve to explain the principles of the present invention.

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FIG. 1 depicts a front view of a front-loading utility basket, in accordance  
with a preferred embodiment of the present invention;

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FIG. 2 illustrates a back view of the front-loading utility basket illustrated  
in FIG. 1, in accordance with a preferred embodiment of the present invention;

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FIG. 3 depicts a front view of the front-loading utility basket illustrated in  
FIG. 1 with a front door thereof in a closed position, in accordance with a  
preferred embodiment of the present invention;

FIG. 4 illustrates a side view of a utility basket and a lid thereof in  
accordance with an alternative embodiment of the present invention;

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FIG. 5 depicts a left side view of an alternative utility basket, in  
accordance with an alternative embodiment of the present invention;

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FIG. 6 illustrates a left side view of utility basket with a single wheel to  
assist in the transportation of such a utility basket, in accordance with an  
alternative embodiment of the present invention;

FIG. 7 depicts a front view of alternative front-loading basket with a vertical front door in a closed position, in accordance with an alternative embodiment of the present invention;

5           FIG. 8 illustrates a front view of the front-loading basket of FIG. 1, wherein the front door is shown partially open, in accordance with an alternative embodiment of the present invention;

FIG. 9 depicts a side view of a retractable door, which may be  
10 implemented in accordance with an alternative embodiment of the present invention;

FIG. 10 illustrates a side view of a utility basket and a retractable door, which can be implemented in accordance with a preferred embodiment of the  
15 present invention;

FIG. 11 depicts a top view of an extendable handle, which may be implemented in accordance with an alternative embodiment of the present  
20 invention;

FIG. 12 illustrates a top view of the extendable handle of FIG. 11 in an open position in accordance with an alternative embodiment of the present invention;

25           FIG. 13 illustrates a front view of a front-loading basket such as shown in FIGS. 7 and 8, wherein the front door is shown secured in a partially open position using a locking mechanism, in accordance with an alternative embodiment of the present invention; and



FIG. 14 illustrates a cut away view of the front loading basket showing locking mechanism hardware as shown in FIG. 13 in accordance with an alternative embodiment of the present invention.

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## DETAILED DESCRIPTION OF THE INVENTION

5           The particular values and configurations discussed in these non-limiting examples can be varied and are cited merely to illustrate embodiments of the present invention and are not intended to limit the scope of the invention.

10           FIG. 1 depicts a front view 100 of a front-loading utility basket 102, in accordance with a preferred embodiment of the present invention. Utility basket 102 includes a back wall 106, which is disposed between a right wall 117 and a left wall 115. A bottom floor (not shown) is located below and connected to right wall 117, left wall 115 and back wall 108. Utility basket 102 also includes a front wall 112 which has a front door 104 that may open or close. When front door 104 is an open position, as indicated in FIG. 1, items may be placed into utility basket 102 through a gap 106 formed in front wall 112, in-between right wall 117 and left wall 115. Utility basket 102 may also be configured to include a plurality of wheels, one of which is illustrated in FIG. 1 (i.e., wheel 105). Additionally, utility card 110 may include a handle 110. Note that handle 110 may comprise a extendable handle. Such a extendable handle will be described in greater detail herein.

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25           FIG. 2 illustrates a back view 200 of the front-loading utility basket 102 illustrated in FIG. 1, in accordance with a preferred embodiment of the present invention. Note that in FIGS. 1 to 3 herein, like parts are indicated by identical reference numeral. Thus, FIGS. 1 to 3 each illustrates varying views of utility basket 102. As indicated in FIG. 2, back view 100 includes a view of back wheels 105 and 107. Back wheel 105 is disposed near right wall 117, while wheel 107 is disposed near left wall 115. Thus, it can be appreciated that one of the advantages of utility basket 102 is the ability to items into the basket from

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the front rather than from the top. Items may be loaded into utility basket 102 from the top, however, in addition to the front.

FIG. 3 depicts a front view 300 of the front-loading utility basket illustrated in FIG. 1 with the front door 104 in a closed position, in accordance with a preferred embodiment of the present invention. Utility basket 102 is shown in FIG. 3 with items 112 contained within utility basket 102 by front door 104 in a closed position. Front door 104 also can include a handle 111 that permits an individual to open or close front door 104. Items 112 illustrated in FIG. 3 may comprise items such as leaves and garbage. Utility basket 102 can thus be utilized as a laundry basket or a clothes hamper. Utility basket 102 can also be utilized as a feed storage bin. A properly fitted lid can be utilized to close utility basket 102 from the top. Such a lid is not illustrated in FIG. 3, however, examples of a lid that may be utilized in association with utility basket 102 are illustrated in FIGS. 4, 5 and 12 herein.

FIG. 4 illustrates a side view 400 of a utility basket 402 and a lid 411 thereof in accordance with an alternative embodiment of the present invention. Utility basket 402 includes a back wall 408, which is disposed between a right wall 417 and a left wall 415. Utility basket 402 of FIG. 4 is similar to utility basket 102 of FIGS. 1 to 3, with the exception that handles 401 and 403 are fitted on the sides of utility basket 402. Utility basket 402 additionally includes a plurality of wheels 405, 407 and 409, which are connected to the bottom of utility basket. Although only three wheels are illustrated in FIG. 4, it can be appreciated by those skilled in the art that a fourth wheel may also be utilized to provide proper balancing and transportation thereof. Utility basket 402 may also include a door, such as a front door similar to front door 104 of FIGS. 1 to 3. Such a door is not illustrated in FIG. 4, however, due to the fact that FIG. 4 presents a side view of utility basket 402. Additionally, wheels 405, 407, 409

and additional wheels may be configured as caster-type wheels.

FIG. 5 depicts a left side view 500 of an alternative utility basket 502, in accordance with an alternative embodiment of the present invention. Utility basket 502 is analogous to utility basket 402 of FIG. 4 and utility basket 102. FIGS. 1 to 3, the chief difference due to the use of large wheels 505 and 507. A smaller wheel 513 is also indicated in FIG. 5. Wheel 513 thus comprises a left front wheel of utility basket 502. It can be appreciated by those skilled in the art, however, that a second front wheel, which is not illustrated in FIG. 5 can be positioned opposite front wheel 513 to comprise a right front wheel. Utility basket 502 additionally includes a handle 510, which is analogous to handle 110 indicated in FIGS. 1 and 2. Handle 510 may comprise a extendable handle. Such a extendable handle will be described in greater detail herein. A left wall 515 is illustrated in FIG. 5. A right wall 517 is also indicated in FIG. 5. Left wall 515 and right wall 517 are connected to a back wall 508. Handle 510 is located at back wall 508. Finally, a lid 511, which is analogous to lid 411 of FIG. 4, may be utilized to cover utility basket 502.

FIG. 6 illustrates a left side view 600 of a utility basket 602 having a single wheel 604 to assist in the transportation of utility basket 602, in accordance with an alternative embodiment of the present invention. Utility basket 602 is analogous to utility basket 102 of FIGS. 1 to 3 and utility baskets 402 and 502 of FIGS. 4 and 5. Utility basket 602 differs from the aforementioned utility baskets 102, 402 and 502 by the use of a single back wheel 602, which is located at the bottom of back wall 602 and centrally between left wall 615 and right wall 617. The use of back wheel 604 in association with a front door such as that illustrated in FIGS. 1 to 3 can offer an additional mobility advantage when transporting utility basket 602.

FIG. 7 illustrates a front view 700 of a front-loading utility basket 702 with a vertical front door 714 in a closed position, in accordance with an alternative embodiment of the present invention. Utility basket 702 includes a right wall 717 and a left wall 715. A back wall 708 is disposed between right wall 717 and left wall 715. A wheel 705 is also indicated in FIG. 7 disposed near the bottom of back wall 708 and right wall 717. Although only a single wheel 705 is illustrated in FIG. 7, it should be appreciated by those skilled in the art that a second wheel may be positioned opposite wheel 705 near the bottom of back wall 708 and left wall 715. Front door 714 is located at front wall 712. Arrow 720 indicates that front door 714 may slide downward in a general vertical path when opening front door 714.

FIG. 8 illustrates a front view 800 of the front-loading utility basket 702 of FIG. 1, wherein the front door 704 is shown partially open, in accordance with an alternative embodiment of the present invention. Note that in FIGS. 7 and 8, like parts are indicated by identical reference numerals. Utility basket 702 may additionally include a handle 710, which may be configured as an extendable handle. Although front door 714 is illustrated as a front door, which generally opens and closes vertically, it can be appreciated by those skilled in the art that front door 714 may be modified such that it opens and closes horizontally into left 708 and/or right 717 walls.

FIG. 9 depicts a side view 900 of a retractable front door 914, which may be implemented in accordance with an alternative embodiment of the present invention. Front door 914 is retractable in the sense that it may be opened and closed by pulling or pushing it vertically down such that it rolls into a scroll-like configuration 911 when moving toward an open position. Front door 914 can thus wind and unwind about a scroll member 913, thereby respectively closing and opening, as indicated by arrow 915. Front door 914 can thus be configured

as a plurality of foldable and/or flexible panels that are interconnected, and/or as one flexible, rollable sheet or panel, wherein any configuration of panels are retractable into a scroll-like configuration. Retraction into a scroll-like position can be assisted with springs and hardware known in the mechanical arts. A tape measure, for example, utilizes a spring assisted retractable system to recall/retract a flexible measuring tape into the housing resulting in scroll-like storage of the tape.

FIG. 10 illustrates a left side view 1000 of a utility basket 1002 and a retractable front door 1014, which can be implemented in accordance with a preferred embodiment of the present invention. Front door 1014 is analogous to front door 714 of FIGS. 7 and 8. Front door 1014 does not retract into a scroll like configuration such as that illustrated in FIG. 9. Instead, front door 1014 slides into and out of a cavity 1020 within utility basket 1002 in order to open and close, as indicated by arrow 1022. Cavity 1010 can thus be formed from at least one wall of the utility basket, such that the front door slides into the cavity when the front door is moving toward an open position and out of the cavity when the front door is moving toward a closed position.

FIG. 11 depicts a top view 1100 of an extendable handle 1110, which may be implemented in accordance with an alternative embodiment of the present invention. Handle 1110 comprises a handle that can extend to facilitate an effortless transportation of a utility basket, such as, for example, utility basket 1002 of FIG. 10. Thus, handle 1110 is analogous to handle 1010 of FIG. 10. FIG. 12 illustrates a top view 1200 of the extendable handle 1110 of FIG. 11 in an open position in accordance with an alternative embodiment of the present invention. Note that in FIGS. 10 and 11, like parts are indicated by identical reference numerals. Arrows 1120 and 1122 indicated movement of handle 1110 toward a closed or extended position. Brackets 1103 and 1106 can separate

the extendable portions 1130 and 1132 from nonextendable portions 1108 and 1112. Nonextendable portions 1108 and 1112 may be connected to the body 1102 of a utility basket, such as for example, utility basket 1002 of FIG. 10.

5           Note that handles 110, 401, 403, 510, 710, 1010 and 1110 can each be configured as extendable handles. Such an extendable handle can be retracted and locked into the body of a respective utility basket and may be unlocked and pulled out for the use to pull a wheeled utility basket on the ground. Examples of extendable and pop-up handles are well known in the art. Such handles have  
10       not been utilized, however, with utility baskets, and in particularly laundry baskets and hampers. In particular, such devices have not been utilized with utility baskets that are front loading and which contain front doors as described herein. An example of an extendable handle that may be implemented in accordance with the present invention is the pop-up mechanism described in  
15       U.S. Patent No. 5,987,701, "Pop-Up Mechanism For an Extendable Handle On A Wheeled Luggage Case" which issued to Kuo on November 23, 1999. U.S. Patent No. 5,987,701 is incorporated herein by reference. Those skilled in the art can appreciate, however, that other extendable handle configurations may be implemented in accordance with the present invention and that the specific  
20       handle configuration illustrated and disclosed in U.S. Patent No. 5,987,701 is not considered a limiting feature of the present invention.

FIG. 13 depicts a utility basket 1300, such as shown in FIGs. 7 and 8, wherein a locking mechanism 1315 is incorporated into the door 1305 and along  
25       the front panel 1305. The locking mechanism 1315 can include spring-loaded latches and associated hardware integrated near the top of the door 1305 having a handle 1303 as shown in the Figure. The spring-loaded latches can include detent or plunger pins (not shown) that fit into a series of holes 1330 formed along a track 1325 formed along the opening in the front panel 1312.

The locking mechanism 1315 is useful for keeping the sliding door in a locked position at various vertical levels set by the user. Numerous holes 1330 formed along the track provide for a variety of levels that the doors opening can be set at.

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FIG. 14 illustrates a blown up, cut away view of a locking mechanism 1410. As shown in the cut-away area of the Figure, a pin 1407 associated with the locking mechanism 1410 can be used to secure the door 1405 at a user-selected level, as determined by holes 1430 formed along the track 1425. The pins 1407 can be moved using a knob 1412, slot, lever, or other means known in the art. It should be appreciated that additional hardware can allow pins 1407 located at both the right and left side of the door 1405 can be controlled from a single location using a unitary controller (not shown) integrated with the handle 1403. Use a hardware as suggested herein is well known in the mechanical arts and should be appreciated given the present teachings.

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It should be appreciated that utility baskets as taught herein can be manufactured by means well known in the manufacturing arts. For example, injection-molding processes can be used to develop large sections of the utility container. The back, right, left and front walls, as well as the container's bottom, can all be processed as a single using unit using plastic and injection molding techniques. The door can also be injection molded using plastic. Wheels and handles can also be injection molded. The handles could be integrated as part of the container during processing. Furthermore, it should be appreciated that the utility basket could be manufactured using other materials such as wood, metal and aluminum; however, plastic is currently the most popular and feasible materials for purposes of manufacturing the present invention.

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The embodiments and examples set forth herein are presented to best explain the present invention and its practical application and to thereby enable those skilled in the art to make and utilize the invention. Those skilled in the art, however, will recognize that the foregoing description and examples have been presented for the purpose of illustration and example only. Other variations and modifications of the present invention will be apparent to those of skill in the art, and it is the intent of the appended claims that such variations and modifications be covered. The description as set forth is thus not intended to be exhaustive or to limit the scope of the invention. Many modifications and variations are possible in light of the above teaching without departing from the scope of the following claims. It is contemplated that the use of the present invention can involve components having different characteristics. It is intended that the scope of the present invention be defined by the claims appended hereto, giving full cognizance to equivalents in all respects.

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